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# APERC Activities Overview

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**Asia-Pacific  
Economic Cooperation**



# 1. APERC Overall Activities

## 1. Research activities

- a. APEC Energy Demand and Supply Outlook (EDSO)
- b. Topical studies
- c. Yearly APEC Energy Overview

## 2. Cooperative Projects

- a. Peer Review on Energy Efficiency (PREE)
- b. Renewable Energy Projects (PRLCE, LCMT)
- c. Energy Security Projects (OGSI)

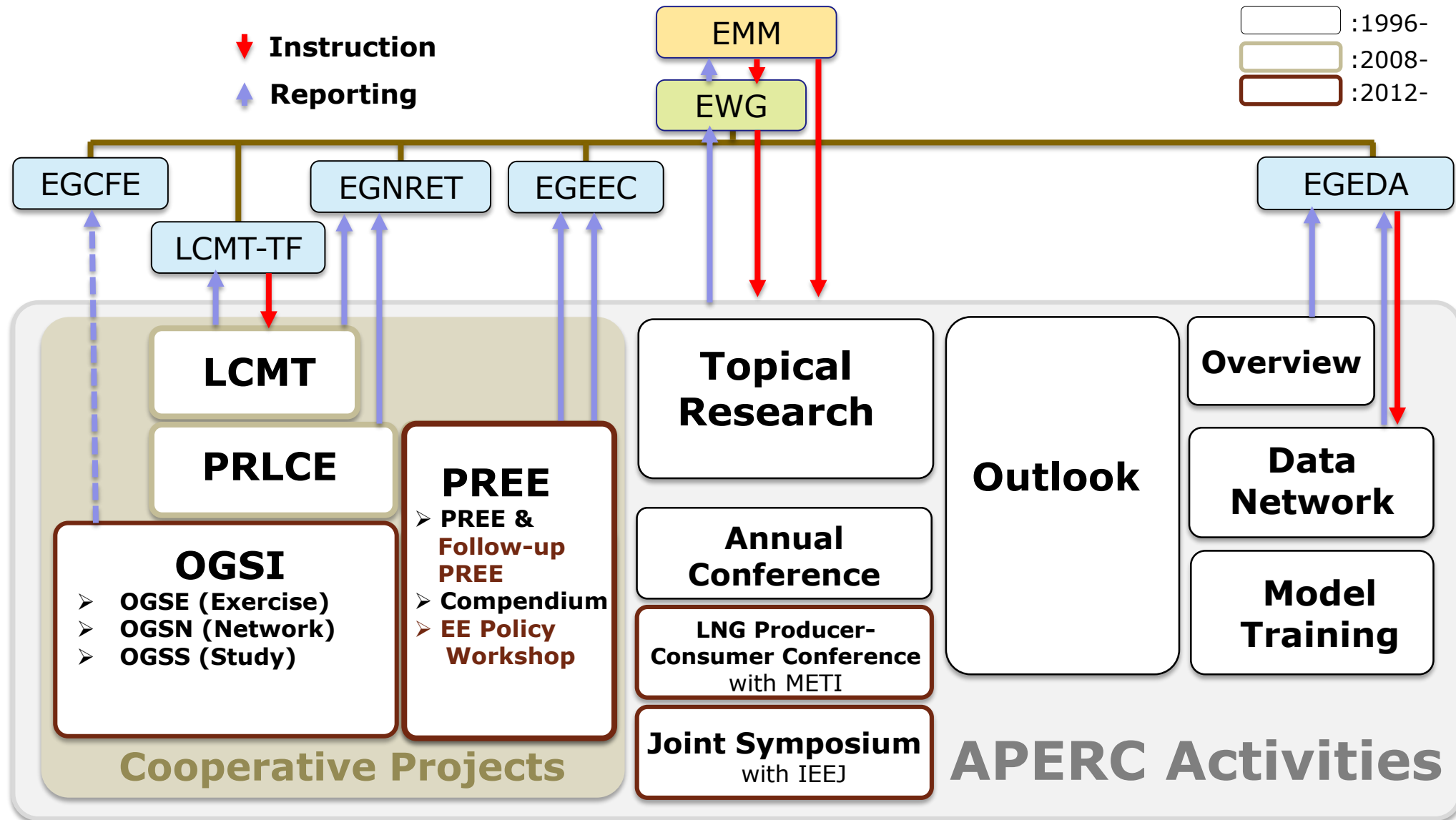
## 3. Training

## 4. Annual Conference and Advisory Board Meeting

## 5. Other activities



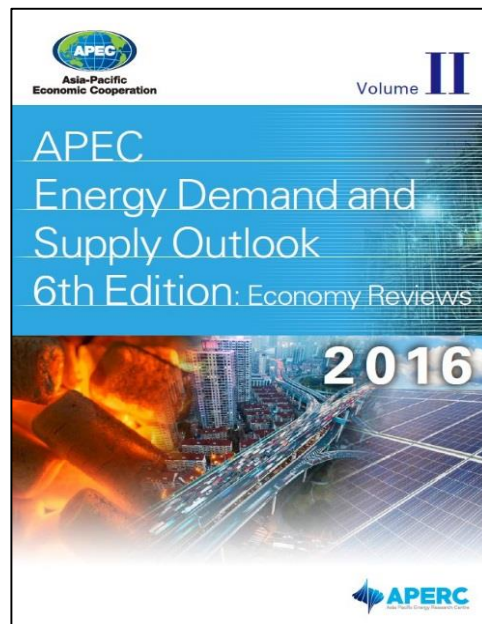
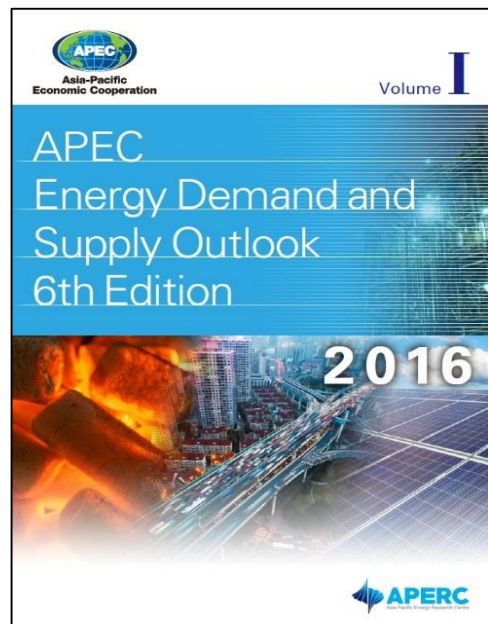
## APERC Activities (2)





## 2. Recent achievements

# The latest EDSO: 6<sup>th</sup> edition



- The 'APEC Energy Demand and Supply Outlook' project is a priority task, published every 3-4 years.
- Two volumes: APEC as a region and economy individually.
- The 6th edition released on May 2016.

## Roadshows to present the Outlook findings:

17 economies: Australia, Canada, Chile, China, Indonesia, Korea, Malaysia, New Zealand, PNG, Peru, the Philippines, Russia, Singapore, Chinese Taipei, Thailand, the United States and Viet Nam.



# APEC Energy Overview 2015

APEC ENERGY OVERVIEW 2015

AUSTRALIA

AUSTRALIA

INTRODUCTION

Australia is the world's largest island economy and the world's sixth largest economy in land area. It lies in the southern hemisphere between the Indian and Pacific oceans. Its total land area of nearly 7.7 million square kilometres (km<sup>2</sup>) comprises six states and two territories. The population of just over 23 million lives mostly in major cities or regional centres along the eastern and south-eastern seaboard. The economy has maintained robust economic growth for the last 24 years and has had average annual growth rate (AAGR) of 3.4% from 1960 to 2015 (ABS, 2015). In 2013, gross domestic product (GDP) reached USD 936.9 billion (USD 2010 purchasing power parity [PPP]), a 2.5% increase from 2012 (EGEDA, 2015). Australia has the only developed economy in APEC to have recorded no annual recessions during the last 24 years (ATC, 2014).

Australia has abundant, high-quality energy resources that are likely to last for many decades at current rates of production. The Australian energy industry contributed to 4% (AUD 66.8 billion) of the economy in 2014–15 (OCE, 2016a).

In 2013–14, Australia's primary energy production fell by 4% to 18 715 petajoules (PJ) or 446 979 kilotonnes of oil equivalent (ktoe), compared with a 10% increase in 2012–13 (OCE, 2015a), due to lower uranium oxide and oil production. Australia produces energy for both domestic consumption and export. Energy exports grew by 2% compared with 14% in the previous year and accounted for 84% of domestic energy production in 2013–14 (OCE, 2015a).

Australia produces uranium for export only, while all other energy production supplies both domestic and international markets. Australia's energy production increased at an average annual rate of 2.3% from 2002–03 to 2012–13; however, it fell by 4% in 2013–14 (OCE, 2015a).

In 2013–14, coal accounted for 66% of Australia's primary energy production, in energy content terms, followed by uranium (14%) and gas (13%) (OCE, 2016a). Crude oil and liquefied petroleum gas (LPG) represented a further 4.5% of total energy production in energy content terms, and renewables represented 1.8% (OCE, 2015a). Relative to 2013–14, Australian export earnings from energy and mineral commodities decreased by 12% in 2014–15 to AUD 172 billion (OCE, 2015b).

As of 2013 Australia was the world's eighth-largest energy producer, accounting for around 2.4% of world energy production. It is the second largest exporter of coal (27% of total global coal exports in 2014) and a major exporter of uranium and liquefied natural gas (LNG) (10% of total global LNG exports) (OCE, 2016a). Given Australia's large energy resources and geographical proximity to burgeoning markets in the Asia-Pacific region, it is capable of meeting a significant proportion of the world's growing energy demand as well as its own domestic needs.

Table 1: Key data and economic profile, 2013

Key data <sup>a</sup>		Energy reserves <sup>b</sup>	
Area (million km <sup>2</sup> )	7.7	Oil (billion barrels)	3.8
Population (million)	23.1	Gas (billion cubic metres)	3 738
GDP (2010 USD billion PPP)	937	Coal (million tonnes)	105 246
GDP (2010 USD PPP per capita)	405 154	Uranium (kilotonnes U)	3 472

Note: Coal reserves are defined as recoverable economically demonstrated resources of black and brown coal. Sources: a. EGEDA (2015); b. GA (2014).

ENERGY SUPPLY AND DEMAND

PRIMARY ENERGY SUPPLY

In 2013–14, Australia's total energy production was 18 715 PJ or 446 979 ktoe (OCE, 2015a). Approximately 66% of production came from coal, 4.5% from crude oil and LPG, 13% from gas, 14% from uranium and the remaining 1.8% from renewables (OCE, 2015a).

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Energy Overview focuses on supply/demand, policy

## 1. Introduction

## 2. Energy Supply and Demand

- Primary Energy Supply
- Final Energy Consumption

## 3. Energy Intensity Analysis

## 4. Policy Overview

- Energy Policy Framework
- Energy Markets
- Energy Efficiency
- Renewable Energy
- Climate Change

## 5. Notable Energy Developments

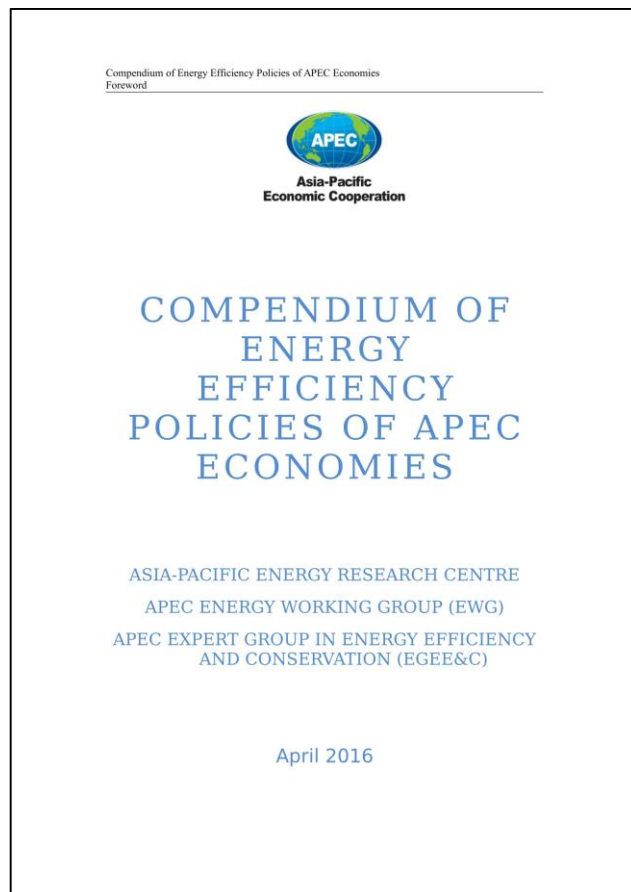
## 6. References

## 7. Useful Links

Sample of Energy Overview 2015: AUSTRALIA

For more information, visit [http://aperc.ieej.or.jp/publications/reports/energy\\_overview.php](http://aperc.ieej.or.jp/publications/reports/energy_overview.php)

# APEC Peer Review on Energy Efficiency (PREE)



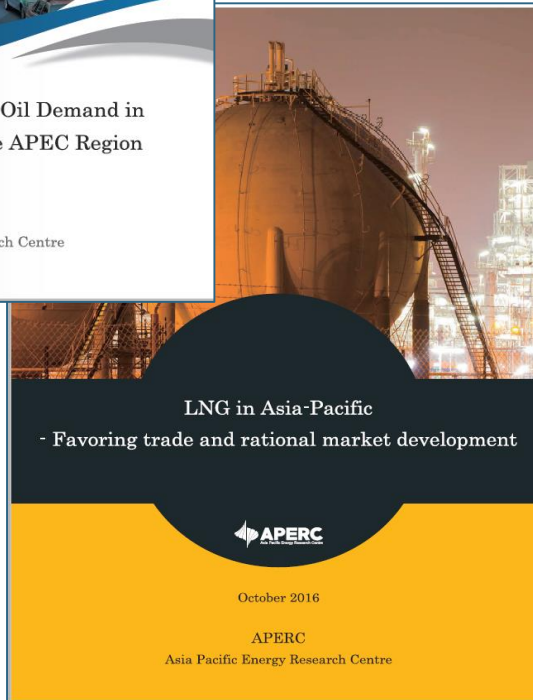
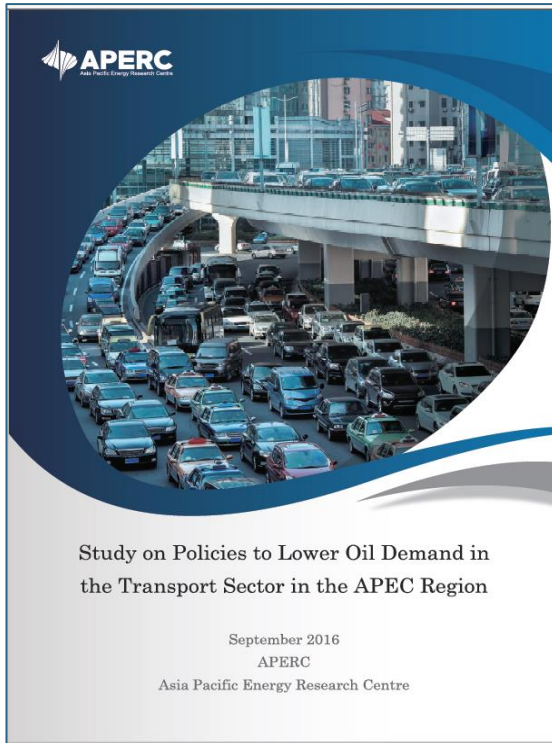
1. Review on Energy Efficiency and follow up
  - 6 phases, proposing Phase 7
  - 11 Economies: New Zealand, Chile, Viet Nam, Thailand, Chinese Taipei, Peru, Malaysia, Indonesia, Brunei Darussalam, and Mexico
2. Energy Efficiency Policy Workshop (EEP)
  - Was held on 27 March in Jeju, Korea
3. Energy Efficiency Policy Compendium
  - Latest publication: April 2016

Sample of the Compendium: Front Cover

For more information, visit <http://aperc.ieej.or.jp/publications/reports/compendium.php>



# Topical Research in 2016



1. Natural gas utilization in APEC (Is Golden Age of Gas Still Possible?)
2. Development of nuclear energy in APEC
3. Impact of low oil price on energy security (OGSS)
4. Gas Security in APEC (OGSS)
5. Geopolitical implication of Iran nuclear agreement (OGSS)
6. Advantages of LPG in case of disaster (OGSS)
7. Energy Security Indexation for Oil and Gas in the APEC Region (OGSS)



# 3. Ongoing activities



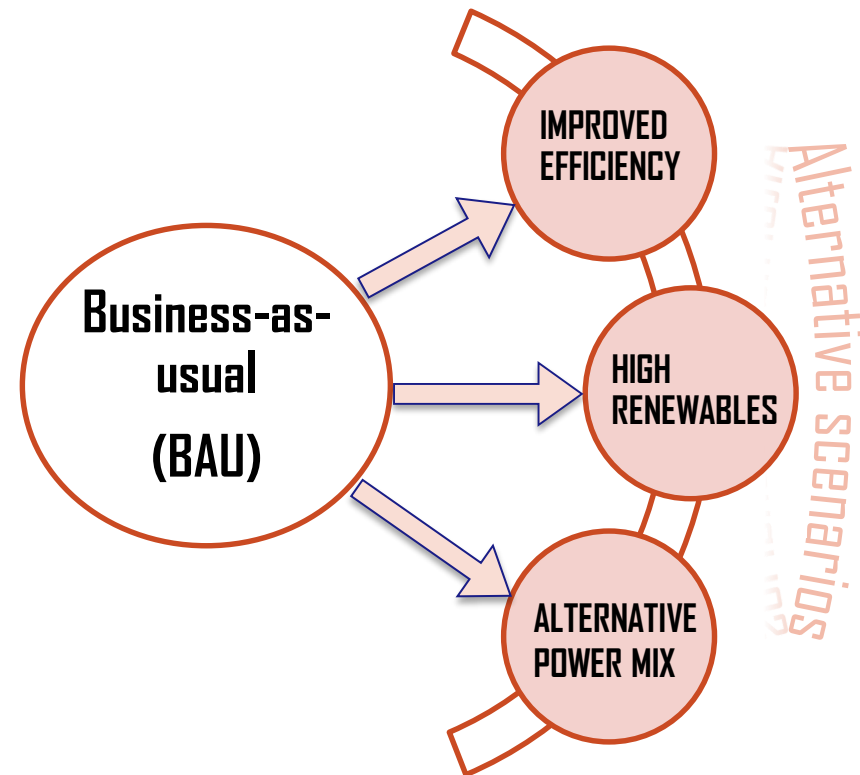
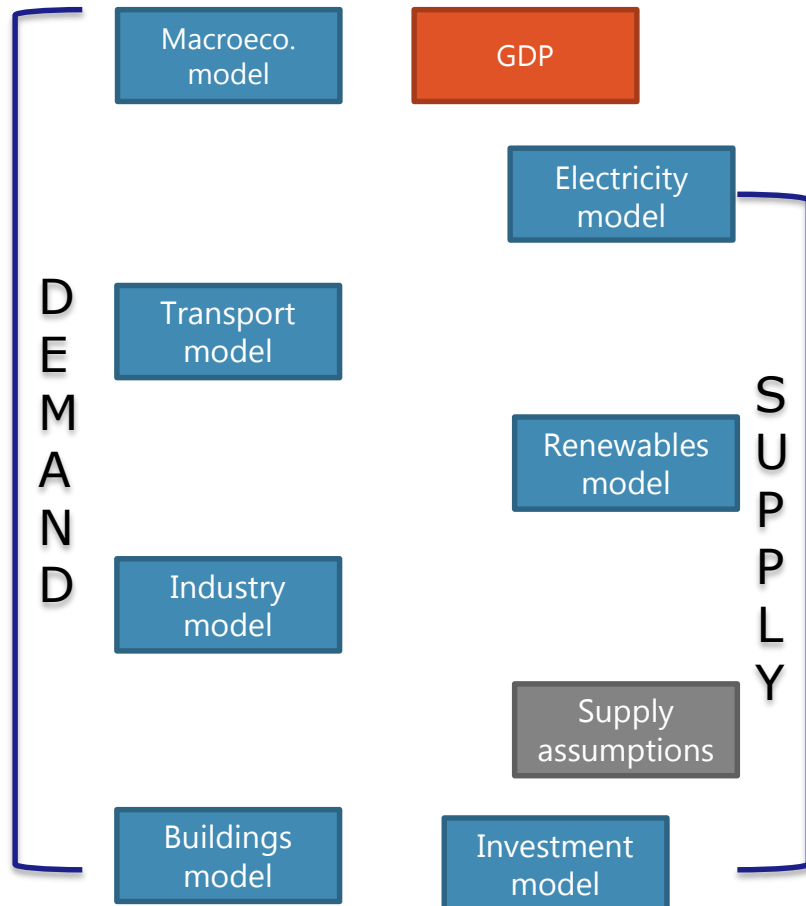


## 3.1 EDSO 7<sup>th</sup> edition



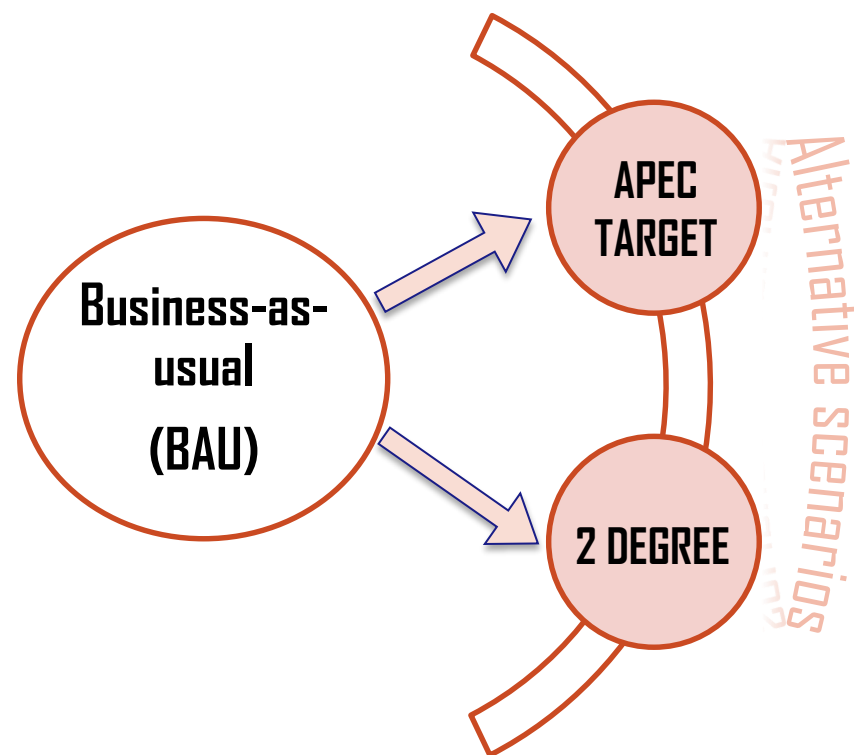
# Changes in modelling: from 6<sup>th</sup> edition

## MAIN ASSUMPTIONS

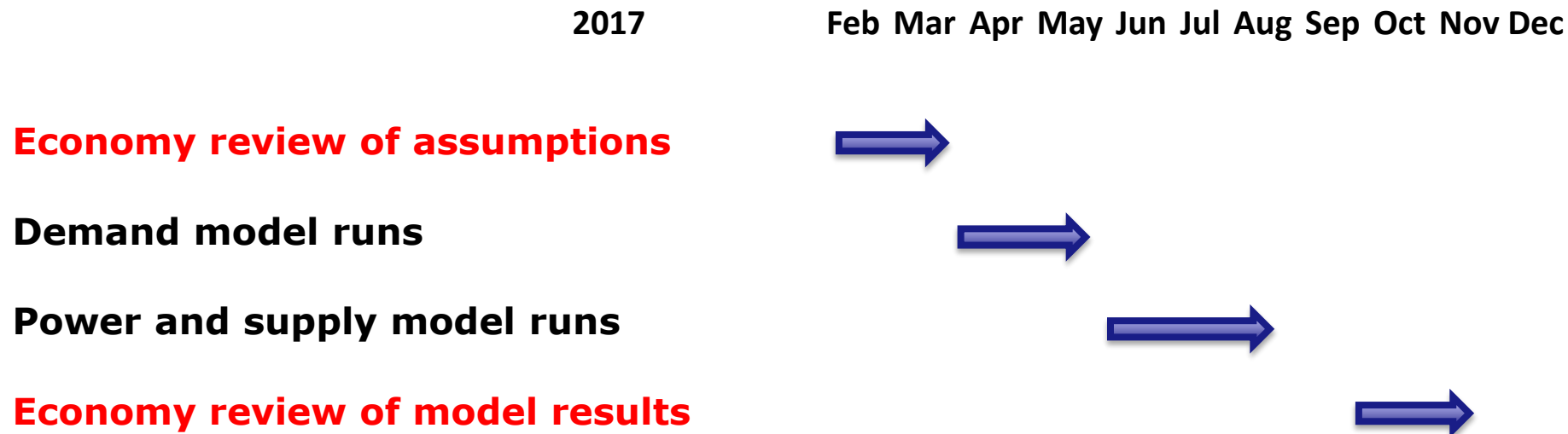


# Changes in modelling: to 7<sup>th</sup> edition

- Reduce the number of alternative scenarios from three to two
- Extend the outlook period to 2050
- Integrate renewable energy analysis with the demand and Electricity models
- Enhance the supply model and add integrating module
- More collaboration with economies, for instance modelling assumptions review process



# Current stage of the 7<sup>th</sup> edition







## 3.2 Other activities (selected)

# Progress of PRLCE

- Phase 1 (2012-2013): Thailand, the Philippines
- Phase 2 (2013-2014): Indonesia, Malaysia
- Phase 3 (2014-2016): Viet Nam
  - The Peer Review report is available at:  
<http://aperc.ieej.or.jp/publications/reports/prlce.php>
- Phase 4 (2017-2018): Papua New Guinea
  - The concept note was submitted to the project session 1, 2017;
  - Project proposal to be submitted upon approval in May 2017;
  - Implementation is planned in August 2017 (TBC).

# Training activities: Trainees and Experts

- APERC accepts energy modelling trainees
- Dispatches experts to developing economies



- A cooperation course on 'Energy Issues in the Asia-Pacific Region' at Waseda University (Japan) started April 2016.





# Thank you for your kind attention!

<http://aperc.ieej.or.jp/>